

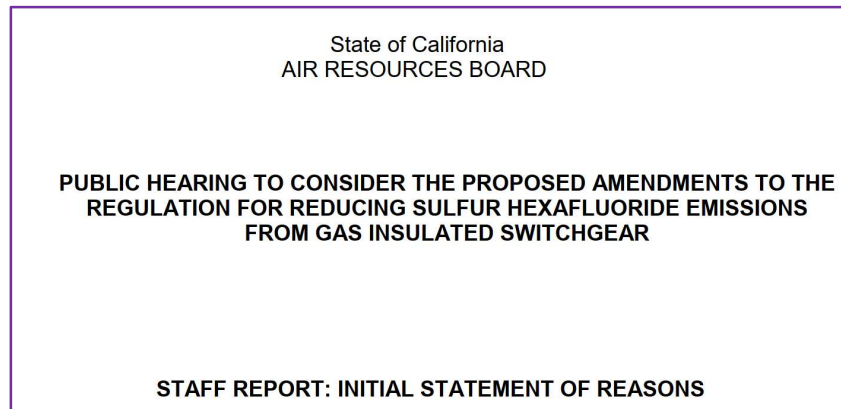
Carey Bylin,  
Director,  
California Air Resource Board,  
1001 I Street, Sacramento, California 95814.

12<sup>th</sup> August 2020

Dear Ms. Bylin,

Siemens Energy Transmission fully supports the Californian grid operators and CARB in the reduction of GHG emissions of power grids. We are fully committed to provide SF6 free, GHG-free and thus CO2 neutral equipment as early as possible. We welcome the extension of scope to gas-insulated equipment and other GHG, the proposed phase out and the phase out dates and the early credit system to stop the increasing amount of SF6 emissions and drive the development to complete SF6 free, GHG free grids. First deliveries for gas-insulated equipment, both GIS and Circuit-breakers, between 72,5 kV and 145kV are planned for 2021, giving Californian utilities the chance to benefit from the early credit system and start the transition towards a CO2 neutral power grid by exchanging all SF6 gas-insulated equipment by CO2 neutral products.

Further to the webinar on July13th 2020 relating to the 'Proposed Amendments to the Regulation for Reducing Sulfur Hexafluoride (SF6) Emissions from Gas Insulated Switchgear', Siemens Energy Transmission would like to discuss further the 'Early Action Credit'. We understand from your analysis circuit breakers amount for around 64% of total capacity, reference page 27 of report below.



That leaves around 36% of total capacity illegible for this credit. Siemens Energy has analyzed their SF6 Gas Insulated Switchgear (GIS) products in typical arrangements sold and installed in the USA and calculates the following per bay:

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<u>72,5 kV up to 145kV</u>	3,466 MTCO <sub>2</sub> e
>145kV to ≤245kV	3,625 MTCO <sub>2</sub> e
>245kV	7,159 MTCO <sub>2</sub> e

Based on current Siemens Energy projects in California, USA the average number of bays per substation is over 15 on projects up to 245kV. Hence, per SF6 filled substation being installed the total increase in MTCO<sub>2</sub>e is approximately:

<u>72,5 up to 145kV</u>	51,990 MTCO <sub>2</sub> e
>145kV to ≤245kV	54,375 MTCO <sub>2</sub> e

Siemens Energy does not have full data on all planned GIS projects in California, but is currently aware of over 11 GIS projects being considered or being built in the state. Siemens Energy believes these numbers are significant and consequently should be considered in the 'Early Action Credit' section of the new regulation

To accelerate the reduction of GHG emissions in California we welcome the Early Action Credit system. However, Siemens Energy suggesting to increase the credit per device of GIS and Circuit Breakers by 1.5 to 2 times (MTCO<sub>2</sub>e) to further encourage utilities to make early decisions to accelerate the decrease of GHG emissions.

Sincerely

Paul Roskilly

Systems Engineering Manager  
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